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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

REC'D 22 JAN 2004

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| Applicant's or agent's file reference 107195/AF | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) | |
| International application No. PCT/NO 03/00004 | International filing date (day/month/year) 09.01.2003 | Priority date (day/month/year) 09.01.2002 |
| International Patent Classification (IPC) or both national classification and IPC H04B1/59 | | |
| Applicant VAVIK GEIR MONSEN | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

EPO - DG 1

25.02.2004

3. This report contains indications relating to the following items:
 - I Basis of the opinion
 - II Priority
 - III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV Lack of unity of invention
 - V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI Certain documents cited
 - VII Certain defects in the international application
 - VIII Certain observations on the international application

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|--|--|
| Date of submission of the demand 04.08.2003 | Date of completion of this report 21.01.2004 |
| Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 | Authorized Officer Sinapius, G Telephone No. +49 89 2399-8170  |

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NO 03/00004

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-25 as published

Claims, Numbers

1-58 as published

Drawings, Sheets

1/19-19/19 as published

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

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5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).
(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)
6. Additional observations, if necessary:

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees, the applicant has:
 - restricted the claims.
 - paid additional fees.
 - paid additional fees under protest.
 - neither restricted nor paid additional fees.
2. This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
 - complied with.
 - not complied with for the following reasons:
see separate sheet
4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:
 - all parts.
 - the parts relating to claims Nos. 1, 51-53 .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|----------|
| Novelty (N) | Yes: Claims | 51-53 |
| | No: Claims | 1 |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | 51-53 |
| Industrial applicability (IA) | Yes: Claims | 1, 51-53 |
| | No: Claims | |

2. Citations and explanations

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see separate sheet

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Reference is made to the following documents:

D1: WO-A-01/67625

D2: US-A-5 630 216

Re Item IV

Lack of unity of invention

1. a. The document D1 (cf. especially claims 1-50) discloses word-for-word all features of present **claims 1-45 and 47-50**.

b. The common concept linking together dependent **claims 46, 51-57 and 58** are the features of claim 1 and claim 33, respectively, which are not novel.

c. The common concept linking together dependent **claims 51-56**, i.e. frequency conversion/transposition in transponders as such is rendered obvious by page 32, line 1-6 of D1.

d. The requisite unity of invention (Rule 13.1 PCT) therefore no longer exists inasmuch as a technical relationship involving one or more of the same or corresponding special technical features in the sense of Rule 13.2 PCT does not exist between the subject-matter of the following six groups of dependent claims which relate to a transponder/a transponder system with a transponder according to claim 1 or 33.
claim 46: where the network that encompasses the transponder system is based on protocols in accordance with, or based on at least one of the communication systems Ethernet including Long Range Ethernet, satellite access return channels and EORODOCSIS;
claims 51-53 and 55 (first alternative): wherein the transponder contains bi-directional frequency converters;
claim 55 (second alternative): wherein the transponders contain one-port bi-directional amplifier systems;
claim 54: wherein the transponder is arranged in a particular way to provide a frequency transposing one-port amplifier;
claim 56: wherein the transponders are inserted between directional couplers in an asymmetrical communication system providing selective frequency transpositioning by means of frequency converters;

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claims 57-58: characterised by a particular combiner for cancelling radiated noise and noise pick-up from received signals.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The document D1 (cf. claim 1) discloses word-for-word all features of present **claim 1**. Also document D2 (cf. especially fig. 1) discloses all features of **claim 1**.

The subject-matter of **claim 1** is therefore not novel (Article 33(2) PCT).

2. Inventive step

a. The subject-matter of dependent **claim 51** differs from the transponder known from D1 in

- (i) the feature of the bi-directional frequency converter.

b. The problem to be solved by the above feature (i) may therefore be regarded as

- to avoid implementation problems with directional attenuation.

c. The use of frequency converters is discussed in document D1 (cf. page 32, lines 1-6) as being advantageous. The skilled person would therefore regard it as a normal design option to include this feature in the transponder described in document D1 in order to solve the problem posed.

d. Also dependent **claims 52 and 53** do not contain any features which, in combination with the features of claim 51 to which they refer, meet the requirements of the PCT in respect of inventive step, the reasons being as follows:

claim 52: the feature of this claim is merely one of several straightforward possibilities from which the skilled person would select;

claim 53: cf. D1, fig. 6.